



October 7, 2013

Mr. Ed Tam
Belleau Wood Development, LLC
415 Pisgah Church Road, #363
Greensboro, North Carolina 27455

**Subject: Geophysical Survey Report
 Former Tarheel Army Missile Plant
 Intersection of North Graham Hopedale Road and North Church Street
 Burlington, Alamance County, North Carolina
 Progress Project No.: 1013130.001**

Dear Mr. Tam:

Progress Environmental, Inc. (Progress) is pleased to submit this Geophysical Survey Report for the former Tarheel Army Missile Plant (TAMP) property located in the northeast quadrant of North Graham Hopedale Road and North Church Street in Burlington, Alamance County, North Carolina (Figure 1). The purpose of the geophysical survey was to determine whether subsurface anomalies or buried debris were present at the site.

INTRODUCTION

The site is approximately 9.64 acres and consists of a paved parking lot and inactive railroad spur. The Alamance County Geographic Information System identifies the parcel as 147805. Progress previously completed a review of the available North Carolina Department of Environment and Natural Resources (NCDENR) files on the CARA Portal and historical aerial photographs.

FIELD ACTIVITIES

A geophysical survey was completed on September 27, 2013 by Geo Solutions, Ltd. to determine if “orphaned” USTs, anomalies, or if evidence of buried debris was present beneath the site. The geophysical survey identified two unknown anomalies on the northeastern portion of the site. Additional structural anomalies were not identified. A copy of the geophysical survey report is included in the Appendix.

CONCLUSIONS AND RECOMMENDATIONS

If impacted soil, USTs, or hazardous materials are encountered during future redevelopment activities, they should be handled and disposed in accordance with current NCDENR rules and regulations. Additional investigation would need to be completed in an effort to identify the type or contents of the buried anomalies on the northeastern portion of the site. Progress recently completed the field activities related to a Limited Soil and Groundwater Assessment at the site, including assessment in the general vicinity of the anomalies. The findings of the Limited Soil and Groundwater Assessment will be provided under separate cover.

CLOSING

This report is intended for the use of Belleau Wood Development, LLC subject to the contractual terms agreed to for this project. Reliance on this document by any other party is forbidden without the express written consent of Progress, and that party's acceptance of mutually agreeable terms and conditions. Use of this report for purposes beyond those reasonably intended by Belleau Wood Development, LLC and Progress will be at the sole risk of the user.

We appreciate your selection of Progress for this project and look forward to assisting you further on this and other projects. If you have any questions, please do not hesitate to contact us at (336) 722-9999.

Sincerely,

PROGRESS ENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read "J. Ricks".

Jason T. Ricks
Senior Environmental Scientist

A handwritten signature in blue ink, appearing to read "Jeffrey A. Ballsieper".

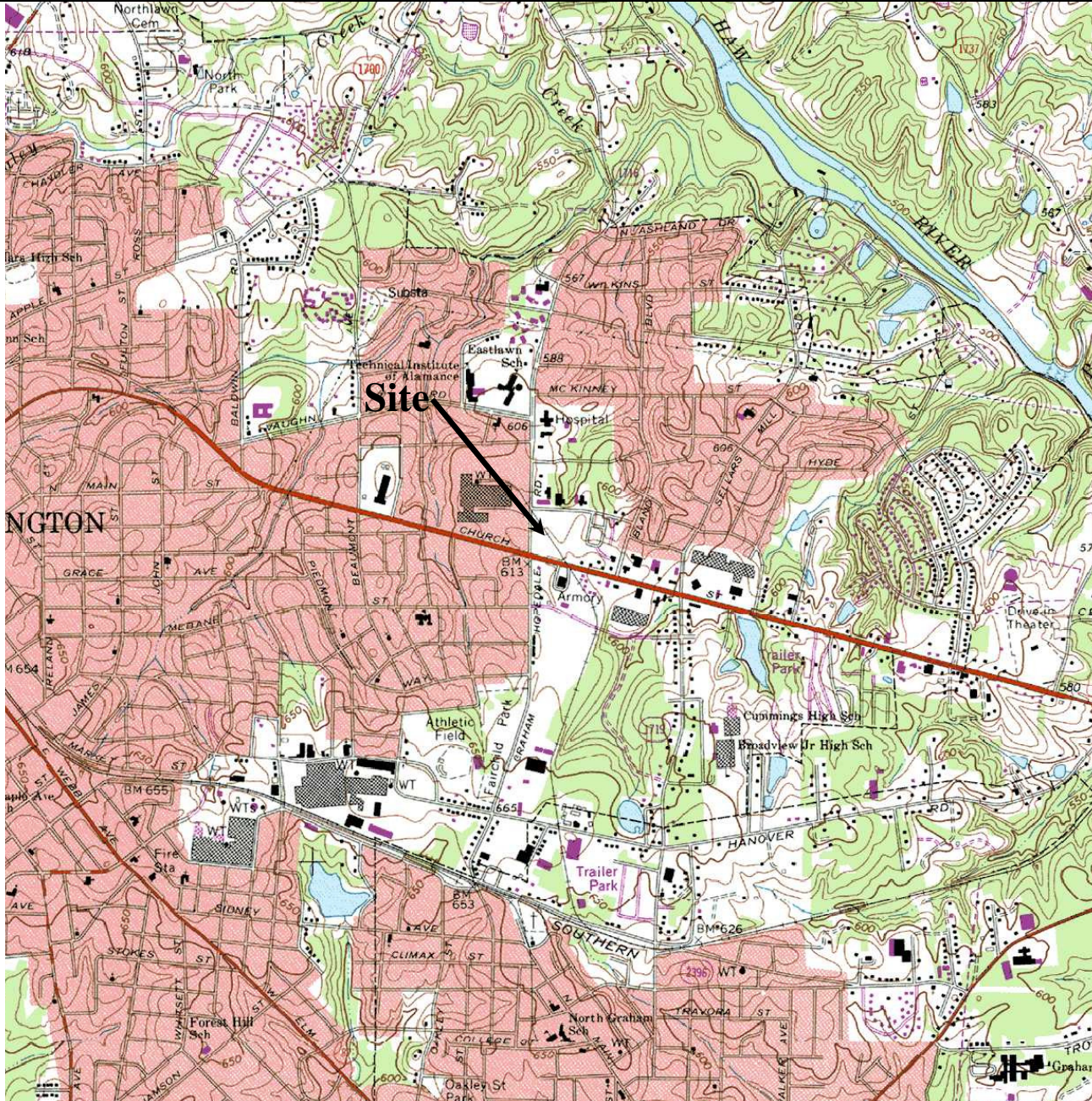
Jeffrey A. Ballsieper, L.G.
Director of Environmental Services

Attachments: Figure 1 – Topographic Site Map
Geophysical Survey Report

FIGURE

Figure 1
Topographic Site Map

Former TAMP
Intersection of North Graham Hopedale Road and North Church Street
Burlington, Alamance County, North Carolina



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Progress 
ENVIRONMENTAL INC

USGS 7.5 Minute Series Topographic Map
Contour Interval: 10 feet
Scale: 1" = 2000'
Burlington, N.C.
Date: 1969, Photorevised 1981

Project: Fmr. TAMP

Client: Belleau Wood Dev.,
LLC

Progress Job #: 1013130.001

Date: October 2013



GEOPHYSICAL SURVEY REPORT

September 30, 2013

Jason Ricks
Progress Environmental, Inc.
P.O. Box 5884
Winston-Salem, North Carolina 27113-5884

Re: Geophysical Investigation of Potential Underground Storage Tanks, N. Graham-Hopedale Rd, Burlington, North Carolina

Dear Mr. Ricks:

Geo Solutions Limited, Inc. (Geo Solutions) is pleased to submit this report of findings for a geophysical survey completed on September 27, 2013 at a large parking lot site along Church St. and N. Graham-Hopedale St., Burlington, North Carolina.

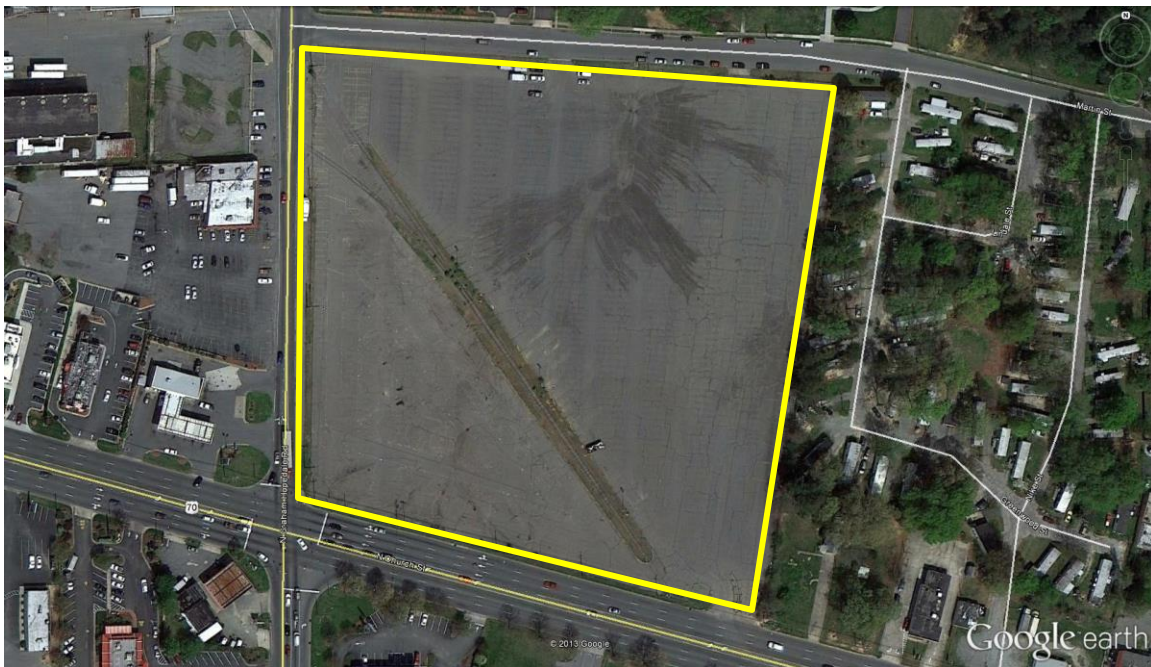


Figure 1. Aerial photograph of the site showing grounds outlined in yellow.

Background

The site is an approximately 10-acre vacant asphalt/concrete parking lot with railroad tracks bisecting the lot diagonally from southeast to northwest.

Progress Environmental (PE) is currently conducting an Environmental Assessment at the site. The location of underground features (i.e., buried debris or below ground tanks) is not known. As such, PE hired Geo Solutions to complete a limited geophysical

evaluation over the area utilizing a portable multifrequency electromagnetic (EM) profiler and ground-penetrating radar (GPR) equipped with the appropriate antenna determined by site conditions.

Site Activities

Geo Solutions completed two types of geophysical surveys as part of the geophysical investigation:

1. Geo Solutions completed a detailed EM evaluation (survey lines spaced at approximately 8-ft and data points every 0.5 feet along each profile line). These data were collected utilizing a Geophex Model GEM-2. The location of the data points were measured utilizing a CSI GPS that directly records the location of each EM data point (Figure 2). From this data, Geo Solutions prepared a site map illustrating the distribution of in-phase (metal detection mode) and quadrature (apparent conductivity) values (Figures 3 - 5).
2. Geo Solutions also completed a limited Ground-penetrating radar (GPR) evaluation of portions of the site where anomalous EM results indicate potential buried debris or utilities.

Results

EM Evaluation

The EM results are presented in Figures 3, 4, and 5.

Figure 3 illustrates the results of the 9810 Hz in-phase data. This information is generally used to indicate the location of buried metal material. This would include but not limited to: buried concrete with metal reinforcement, buried underground storage tanks (USTs), septic tanks, and utilities. The sanitary sewer lines and metal drain grates are the dominate features causing anomalies here. As such, the EM in-phase mode indicates their presence in red and orange hues.

Figure 4 illustrates the results of 45330 Hz in-phase data collected at the site, but the increased frequency enables imaging of potentially deeper anomalies. Like Figure 3, the presence of the sewer lines and metal grate drains depict strong in-phase anomalies.

Figure 5 illustrates the results of the total conductivity data. Here a large anomaly in the northeast corner of the survey area is present. This area represents a localized change in the soil conductivity. The source of this apparent change is unknown.

Additional anomalies for the in-phase and conductivity modes are present along other portions of the site, and are noted in each figure. Here, the sidewalks are reinforced with

wire mesh, metal fencing surrounds the property, and a railway bisects the area diagonally from southeast to northwest.

GPR Evaluation

Geo Solutions completed GPR evaluations over all areas containing anomalous EM (in-phase and conductivity values) to search for potential buried underground storage tanks (USTs). Geo Solutions did verify each anomalous EM feature to determine if the response was the cause of an under-ground storage tank (UST) or other buried debris.

A site, located in the northeast corner of the facility contained a below ground feature of unknown origin. Geo Solutions marked the perimeter of this feature on the ground using orange marking paint.

Summary and Recommendations

Geo Solutions did not find evidence for the presence of USTs. Several underground features associated with sanitary sewer lines and other utilities were observed and an unknown buried feature.

All anomalous geophysical sites can be attributed to the presence of existing utilities and the presence of metal drains, fencing, light poles, and railroad tracks except marked as unknown.

No additional geophysical investigations are recommended to evaluate the site. However, we do recommend additional evaluations be conducted at the unknown buried feature on the northeast portion of the property..

Geo Solutions is pleased to be provided this opportunity, please give me a call should you have questions concerning the above.

Very truly yours,

GEO SOLUTIONS LIMITED, INC.

A handwritten signature in black ink, appearing to read 'R. Crowson', written in a cursive style.

Ronald A. Crowson
Geophysicist

FIGURES 2, 3, 4, and 5



UTM COORDINATES (METRIC)

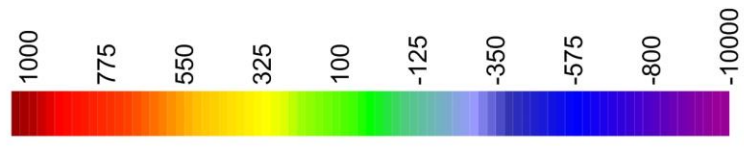
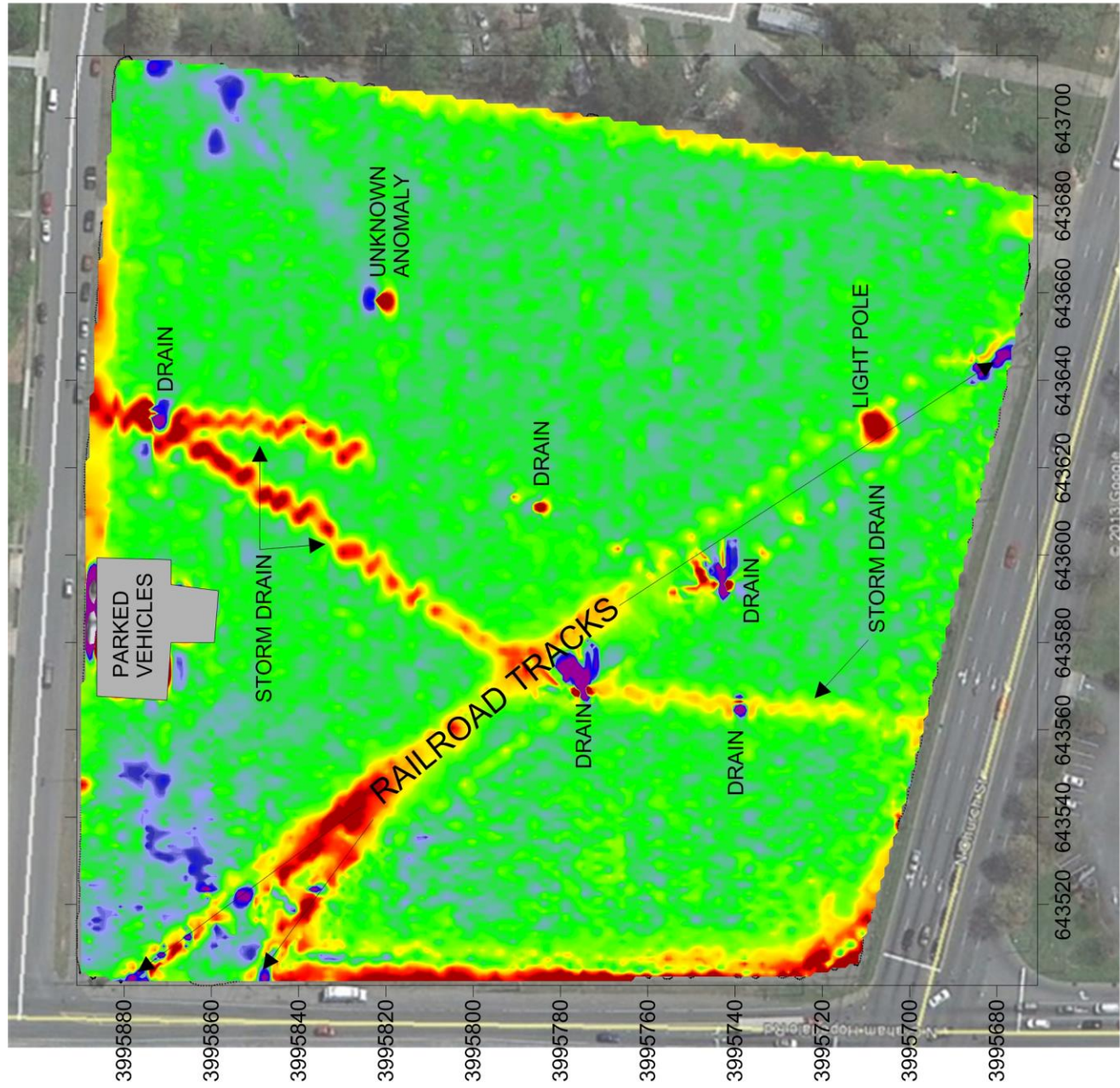
FIGURE 2



MULTIFREQUENCY EM
GEOPHYSICAL SURVEY
LOCATION OF EM PROFILE LINES



SEPTEMBER 2013



9810 Hz
IN-PHASE DATA
(PPM)

FIGURE 3



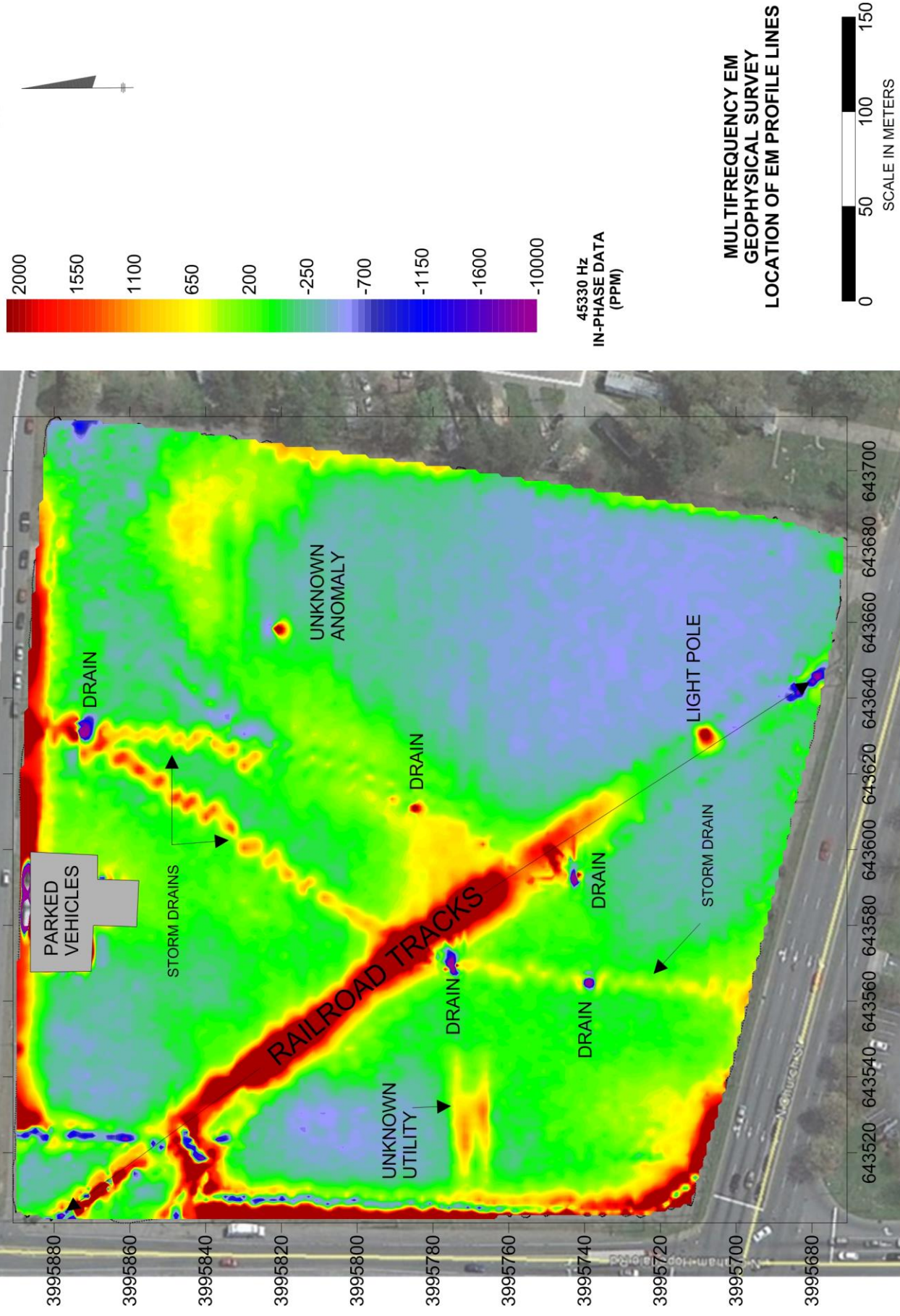
MULTIFREQUENCY EM
GEOPHYSICAL SURVEY



SEPTEMBER 2013

UTM COORDINATES (METERIC)

FIGURE 4



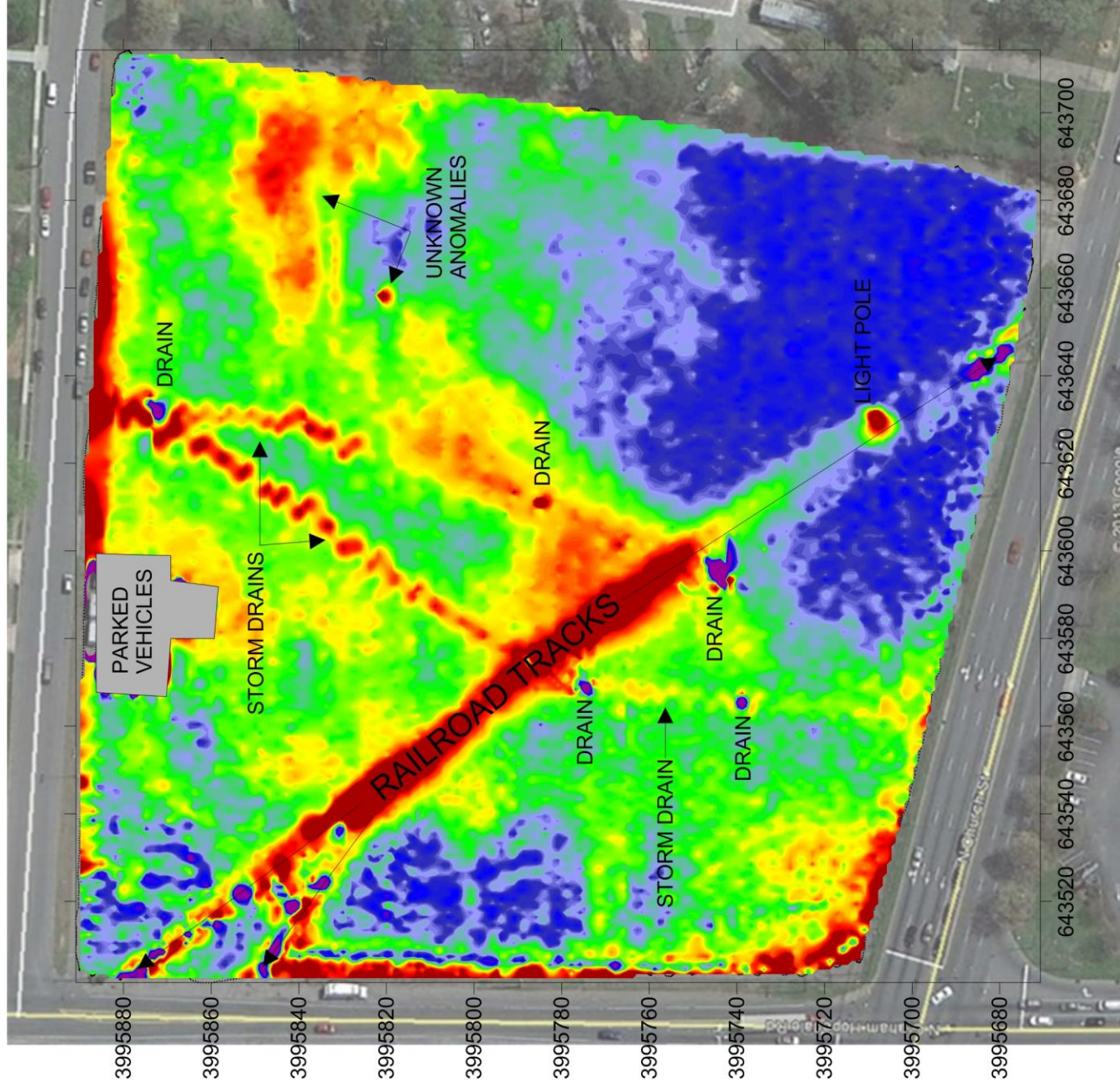


FIGURE 5



MULTIFREQUENCY EM
GEOPHYSICAL SURVEY
LOCATION OF EM PROFILE LINES



SCALE IN METERS

SEPTEMBER 2013